

Honeywell



Electronic Data Processing

HONEYWELL 800 BASIC SPECIFICATIONS



Honeywell 800 Fully Transistorized Electronic Data Processing System

WORD DEFINITION

12 decimal digits, 8 alphanumeric characters or 48 binary digits

MEMORY SIZE

4,096 to 32,768 48-bit words

ORDER STRUCTURE

Three-address

INTERNAL OPERATING SPEEDS

Three-address operations — 30,000 per second
Information transfer rate — 140,000 words per second
Accumulations — 125,000 per second

INPUT—OUTPUT

MAGNETIC TAPE ($\frac{3}{4}$ " wide)

Speed — 96,000 decimal digits per second per unit
Tape Capacity — up to 20,000,000 decimal digits
(maximum of eight units reading and eight units writing in simultaneous operation)

STANDARD CARD READER — 240 cards per minute

HIGH-SPEED CARD READER — 650 cards per minute

STANDARD PRINTER — 150 lines per minute

HIGH-SPEED PRINTER — 900 lines per minute

STANDARD CARD PUNCH — 100 cards per minute

HIGH-SPEED CARD PUNCH — 250 cards per minute

HONEYWELL 800 FEATURES

- Automatically controlled parallel processing of up to eight independent programs
- Simultaneous utilization of up to eight input and eight output trunks
- Binary and decimal arithmetic
- Indexing, Indirect Addressing, Word Masking
- On-line inquiry processing
- Floating-point arithmetic (optional)
- Orthotronic Control
- Tape reading in either direction
- Fast tape rewind
- Automatic programming routines
- Library routines
- Random access storage (optional)
- Paper-tape input-output equipment (optional)

MINNEAPOLIS-HONEYWELL • ELECTRONIC DATA PROCESSING DIVISION

WELLESLEY HILLS 81, MASSACHUSETTS



DSI-15D
51060
Litho in U. S. A.



The following descriptions amplify the model number listings in the Honeywell 800 Equipment Price Schedule. For additional information on any unit or control, check with your DATAmatic representative or contact:

Sales Department
MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
DATAmatic Division
Newton Highlands 61, Massachusetts

HONEYWELL 801 CENTRAL PROCESSOR

USE: With all installations. Size depends upon number of options included.

FEATURES: Standard features of the central processor are:

- a. Basic Memory Size — 4,096 words
- b. Order Structure — 3 address
- c. Instruction Word —

operation code	address A	address B	address C
12 bits	12 bits	12 bits	12 bits

- d. Internal Operating Speed — 30,000 operations per second
- e. Word Definition — Sign and 11 decimal digits
8 alphanumeric characters
48 binary digits
- f. Traffic Control — Automatic monitoring of a maximum of 16 input-output channels in simultaneous operation.
- g. Multiple Programs — Up to eight independent programs may proceed simultaneously by Parallel Processing.
- h. Console — The operator's console, although a separate unit, is included in the price of the

central processor. It contains controls and indicators for monitoring all programs. The printer, provided on the console, monitors the central processor, printing output under control of stored programs, printing the contents of memory locations on demand, and logging all manual console operations. It also provides on-line random inquiry access to information on magnetic tape. Other printers can be supplied if inquiry print-outs are required at positions separate from the operator's console.

HONEYWELL 801A FLOATING-POINT OPTION

USE: The addition of this option to the central processor provides fixed-point binary and decimal division. This option also provides floating-point arithmetic, binary and decimal, including division and comparison instructions.

FEATURES: Provides fast fixed-point division logic and allows the manipulation of information in the form of floating-point numbers. A floating-point number is comprised of a sign, an exponent of 7 binary positions, and a mantissa of 40 binary positions.

HONEYWELL 802 ADDITIONAL MEMORY

Additional memory modules of 4,096 words are available to be added to the basic 4,096 words supplied as part of the central processor. Modules may be added to expand the memory to a maximum of 16,384 words.



HONEYWELL 803 TAPE CONTROL

USE: The 803 tape control controls the flow of data between the magnetic tape unit and the central processor.

FEATURES: From one to eight tape units may be connected to one tape control. Since as many as eight tape controls may be employed in a single system, a maximum of 64 magnetic tape units may be directly connected to the central processor. Information read from or written on magnetic tape is transmitted through the tape control. Read and write amplifiers, buffer storage and switching circuits are contained in the tape control. Of the eight tape units attached to one tape control, any one may be reading and another writing at the same time.

HONEYWELL 804 MAGNETIC TAPE UNIT

USE: The 804 transports the magnetic tapes which provide high-speed, large-capacity input and output storage of data or programs.

SPEED: The tape speed of 120 inches per second and recording density of 400 bits per inch in each of eight information channels produce an instantaneous reading and writing rate of 96,000 decimal digits per second for each magnetic tape unit. With a maximum of eight units reading and eight units writing in simultaneous operation, an information transfer rate of over 1.5 million decimal digits per second is achieved.

FEATURES: Tapes can be read backward as well as forward, a fast-rewind is included, and unwound tapes can be dismounted and rewound off-line.

Orthotronic Control, Honeywell's unique automatic error-correction technique, internally regenerates words which are lost or garbled on magnetic tapes.

HONEYWELL 805 MAGNETIC TAPE SWITCHING UNIT (manually controlled)

USE: The 805 magnetic tape switching unit allows the magnetic tape unit to be alternately connected to either the tape control for use with the central processor or to an off-line peripheral control for off-line operation.

HONEYWELL 806 PRINTER CONTROL

USE: With either the 822-1 standard printer or the 822-2 high-speed printer.

FUNCTION: The 806 printer control permits on-line printing under control of a program stored in the central processor. This unit contains buffer storage for 120 characters, a decoder to convert from Honeywell 800 code to printer code and the necessary circuits to implement the vertical spacing controls.

HONEYWELL 807 CARD READER CONTROL

USE: With the 823-1 standard-speed card reader, 823-2 high-speed card reader, or 823-3 high-speed card reader.

FUNCTION: The 807 contains buffer storage for 80 columns of card data and the necessary circuits to check for correct reading and illegal punching and to translate the punched card codes into the corresponding Honeywell 800 code.

HONEYWELL 808 CARD PUNCH CONTROL

USE: With either the 824-1 standard-speed punch or the 824-2 high-speed punch.

FUNCTION: The card punch control contains buffer storage for 80 columns of card data, and circuits to translate the data from the Honeywell 800 codes into the codes which are punched into 80-column cards.

HONEYWELL 809 PAPER TAPE INPUT CONTROL

USE: With either the 825-1 standard-speed paper tape reader or the 825-2 high-speed paper tape reader.

FUNCTION: To code the information read from paper tape into the standard Honeywell 800 code and transfer this information to the central processor.

HONEYWELL 810 PAPER TAPE OUTPUT CONTROL

USE: With the 826-1 standard-speed paper tape punch.

FUNCTION: To provide the equipment necessary to translate the incoming data from the central processor into the tape code, and to transfer this information to the punch.

HONEYWELL 811 PRINTER - CARD PUNCH - CARD READER CONTROL

USE: With 822-1 or 822-2 printer and 824-1 or 824-2 card punch and 823-1, 823-2 or 823-3 card reader. The selection of a card reader, printer, or punch is a manual action accomplished by a control panel switch.

FUNCTION: To provide the necessary storage, code translation, and control facilities required between the selected terminal device and the central processor.

Information is transferred between the central processor and the 811 in the standard Honeywell 800 code.

HONEYWELL 812 PRINTER - CARD PUNCH CONTROL

USE: With either the 822-1 standard-speed printer or the 822-2 high-speed printer in combination with either the 824-1 standard-speed card punch or the 824-2 high-speed card punch. The selection of printer or punch is a manual operation.

FUNCTION: To provide the necessary recoding, storage, and control facilities between the central processor and the selected terminal device.

All information transferred from the central processor is in standard Honeywell 800 code.

HONEYWELL 813 PRINTER - CARD READER CONTROL

USE: With either the 822-1 standard-speed printer or the 822-2 high-speed printer in combination with the 823-1 standard-speed card reader, the 823-2 high-speed card reader or the 823-3 high-speed card reader. Either the printer or card reader is selected manually by a control panel switch.

FUNCTION: To provide the necessary code translation, storage, and control facilities between the central processor and the selected terminal device.

All information transferred to or from the central processor is in the standard Honeywell 800 code.

HONEYWELL 814 CARD READER - CARD PUNCH CONTROL

USE: With the 823-1 standard-speed card reader, the 823-2 high-speed card reader or the 823-3 high-speed card reader in combination with either the 824-1 standard-speed card punch or the 824-2 high-speed card punch. The reader or punch is selected by a control panel switch.

FUNCTION: To provide the necessary code translation, storage, and control facilities between the central processor and the selected terminal device.

All transfers between the central processor and the control are in the standard Honeywell 800 code.

HONEYWELL 815 OFF-LINE OUTPUT AUXILIARY CONTROL

USE: With either an 806 printer control, 808 card punch control, 811 printer—card punch—card reader control, 812 printer—card punch control, 813 printer—card reader control, or 814 card reader—card punch control.

FUNCTION: This unit enables the output control and the associated terminal device to be utilized as an off-line system, with total independence from the central processor. An 804 magnetic tape unit must be made available to the off-line control. When used with multi-purpose controls, the 815 allows only the output terminal devices to be used off-line. The on-line usage of a peripheral control at another time is not impaired by the addition of the off-line control.

HONEYWELL 816 OFF-LINE INPUT AUXILIARY CONTROL

USE: With either an 807 card reader control, 811 printer—card punch—card reader control, 813 printer—card reader control, or 814 card reader—card punch control.

FUNCTION: The off-line input control enables any of the input terminal devices and the associated control to function off-line. An 804 magnetic tape unit must be made available to the off-line input control.

HONEYWELL 817 OFF-LINE INPUT-OUTPUT AUXILIARY CONTROL

USE: With either an 811 printer—card punch—card reader control, 813 printer—card reader control, or 814 card reader—card punch control.

FUNCTION: The 817 enables any of the input or output terminal devices used with the above controls to function off-line. An 804 magnetic tape unit must be made available to the off-line control.

HONEYWELL 818-1 PAPER TAPE INPUT AUXILIARY CONTROL

USE: With either an 807 card reader control, 811 printer—card punch—card reader control, 813 printer—card reader control, or 814 card reader—card punch control.

FUNCTION: This permits the addition of a paper tape reader as a terminal device to any of the above controls.

HONEYWELL 818-2 PAPER TAPE INPUT AUXILIARY CONTROL

USE: With either an 806 printer control, 808 card punch control, or 812 printer—card punch control.

FUNCTION: This unit permits the addition of a paper tape reader as a terminal device to any of the above output controls.

HONEYWELL 819-1 PAPER TAPE OUTPUT AUXILIARY CONTROL

USE: With an 807 card reader control.

FUNCTION: This permits the addition of a paper tape punch as a terminal device to the above control.

HONEYWELL 819-2 PAPER TAPE OUTPUT AUXILIARY CONTROL

USE: With either an 806 printer control, 808 card punch control, 811 printer—card punch—card reader control, 812 printer—card punch control, 813 printer—card reader control, or 814 card reader—card punch control.

FUNCTION: This permits the addition of a paper tape punch as a terminal device to any of the above controls.

HONEYWELL 822-1 STANDARD-SPEED PRINTER

USE: With the 806 printer control, 811 multi-purpose control, 812 printer—card punch control and 813 printer—card reader control. The printer may be used on-line with any of the above controls. The addition of an 815 or 817 off-line control to the above equipment permits off-line operation.

SPEED: 150 lines per minute.

FUNCTION: Each of the 120 print wheels may be used to print any one of 47 characters.

A line of print is spaced 10 characters to the inch. Line spacing is 6 or 8 lines to the inch, single-spaced. 120 print positions may be utilized per line.

CARRIAGE: Continuous forms are fed by the tape controlled carriage. A standard 12-channel paper tape is used for carriage control and affords complete flexibility of line spacing used in conjunction with vertical program instructions.

HONEYWELL 822-2 HIGH-SPEED PRINTER

USE: With 806 printer control, 811 multi-purpose control, 812 printer—card punch control or 813 printer—card reader control either on-line, or off-line with the addition of an off-line control.

SPEED: 600 or 900 lines per minute (selectable by a control panel switch).

FUNCTION: Each of the 120 print positions can be controlled to print any one of 56 characters — 26 letters, 10 digits, and 20 special symbols. All 120 print positions may be utilized in a given printed line.

HORIZONTAL SPACING: 10 characters to the inch.

VERTICAL SPACING: Six lines to the inch, single-spaced. Complete flexibility of line spacing is effected by a paper tape controlled carriage, used in conjunction with vertical program instructions.

CARRIAGE: Continuous forms are fed by a tape controlled carriage. Paper is fed at the rate of approxi-

mately two feet per second. Multi-channel paper tape is used for carriage control. A channel selection by a program instruction results in vertical paper movement of an arbitrary number of spaces.

HONEYWELL 823 CARD READERS

USE: With 807 card reader control, 811 multi-purpose control, 813 printer—card reader control or 814 card reader—card punch control.

CARDS: Standard 80-column punched cards.

SPEED: 240 cards per minute (823-1 standard-speed card reader) or

650 cards per minute (823-2 high-speed card reader) or 900 cards per minute (823-3 high-speed card reader).

FUNCTION: The card feeding mechanism includes a hopper, two 80-column brush reading stations, and two stackers. One reading station is used for checking purposes and the second for entry of data.

The cards may be deposited into either the accept or reject stacker according to instructions.

HONEYWELL 824 CARD PUNCHES

USE: With 808 card punch control, 811 multi-purpose control, 812 printer—card punch control or 814 card reader—card punch control.

CARDS: Standard 80-column punched cards.

SPEED: 100 cards per minute (824-1 standard-speed card punch or 250 cards per minute (824-2 high-speed card punch).

FUNCTION: The card feeding mechanism includes a hopper, an 80-column punching station, and a stacker.

A reading station is also provided following the punching station and is available for double punch and blank column detection.

HONEYWELL 825 PAPER TAPE READERS

USE: With 809 paper tape input control, 818-1 or 818-2 paper tape input auxiliary control.

PAPER TAPE: 5, 6, 7, or 8 level paper tape.

SPEED: 200 characters per second (825-1 standard-speed paper tape reader) or 1,000 characters per second (825-2 high-speed paper tape reader).

HONEYWELL 826-1 PAPER TAPE PUNCH

USE: With 810 paper tape output control, 819-1 or 819-2 paper tape output auxiliary control.

PAPER TAPE: 5, 6, 7, or 8 level paper tape.

SPEED: 60 characters per second.